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May 15, 2002

Office of the Secretary
Federal Communications Commission
445 12th St., S.W., Room TW-A325
Washington, D.C. 20554

RE: WT Docket No. 01-309, NPRM Related to Reexamination of Exemption Granted
Personal Communications Services devices from the Hearing Aid Compatibility
Act of 1988

Dear Commissioner:

We represent Myers Johnson, Inc. (MJJ), a company involved in the design and production of wireless communication accessories. MJJ is devoting significant attention to communications equipment access issues for persons with hearing disabilities and is interested in the proceedings of the Federal Communications Commission (the Commission) as they relate to hearing aids and cochlear implants. MJJ has been following the Commission's reexamination of the exemption granted Personal Communications Services (PCS) devices from certain provisions of the Hearing Aid Compatibility Act of 1988 (the HAC Act), as announced in the Notice of Proposed Rulemaking (the NPRM), WT Docket 01-309. We believe that the technology MJJ has developed makes compliance with the HAC Act technologically feasible and readily achievable, and hereby urge the Commission to repeal the exemption. MJJ currently has a patent pending on a unique, natural and absolute means for controlling energy around a desired location such as a user's head or body.

I recently spoke with Ms. Mandy Little regarding our desire to submit information responsive to the NPRM. At the time that NPRM responses were being sought, MJJ had not yet secured intellectual property protection for the antenna technology which we believe to be pertinent to the PCS exemption. Mr. Jim Johnson, President & CEO of MJJ, corresponded via emails to Commissioner Abernathy on February 11 and again on February 13, 2002, identifying himself and noting that MJJ had developed technology relevant to the reexamination. Having secured the intellectual property protection, we are now more at liberty to discuss the technological details.

We have read a number of the industry comments submitted by wireless communications equipment providers and the CTIA which the revocation of the exemption is premature, and find them unpersuasive. MJI's Interferometric Antenna Array (IAA) technology provides a simple and inexpensive means for controlling radio frequency (RF) energy around a user's head and consequently the electromagnetic interference (EMI) caused in the user's hearing aid as a result of the RF energy radiated from a wireless device's transmission antenna. The IAA creates RF energy nulls simply and effectively in the region near to the wireless communications device's antenna array, where a user's head is expected to be positioned when using the communications device.

The principle behind the operation of MJI's IAA technology lies in the cancellation of selected RF energy waves as they propagate from the communications device antenna array and before they introduce electromagnetic interference in hearing aid circuitry. Through the judicious selection of the number of radiating antenna elements, phase-shifting, and power division, significant reduction of the Specific Absorption Rate (SAR) can be achieved. Internal lab experiments MJI has undertaken has demonstrated that SAR's on the order of as much as 1000 times below the allowable 1.6 mW/gram of tissue are achievable. These levels are achievable without complex and expensive adaptive cancellation circuitry, shielding, or telecoil modifications. Typical antennas used in PCS devices consist of either a monopole or single pair of dipole radiating elements. The IAA concept uses more than one radiating element (a plurality from 2 to N) separated by a distance which is determined in part by the free space wavelength of the signal which the PCS device is intended to transmit. Signals generated by the PCS device for transmission are appropriately split, and the split signals phase-shifted with respect to one another, prior to feeding the plurality of radiating elements. Judiciously selected element positioning, signal-splitting and phase-shifting results in a region proximate to the IAA in which the radiated electromagnetic energy combines and cancels so as create a spatial null.

Adoption of MJI's IAA technology by common carriers as after-market accessories, or manufacturers as alternative antenna designs for mainstream cellular phone models, will allow both common carriers and handset manufacturers to comply with the HAC Act of 1988. MJI, which is based in San Francisco, CA, is actively moving towards manufacturing the IAA and a market launch of May 15, 2002, which notably coincides with the middle of "Better Hearing and Speech Month". MJI is still in the process of gathering data from a series of compatibility tests being conducted under the general guidelines of the newly-adopted ANSI C63.19 "Hearing Aid Compatibility" standard, and would be happy to share performance results when they become available. MJI believes these results will empirically demonstrate the feasibility of achieving compatibility.

The Commission was also seeking input on the interpretation of "internal means" by which the wireless industry must make telephones compatible with hearing aids. Neither retrofitting a PCS device or introducing an IAA to the original PCS device design will be expensive or

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inconvenient to a user. Because there are no circuit changes and only minor housing changes to accommodate the IAA, only a small percentage of the overall cost of a phone will be attributable to component changes and engineering re-design efforts. MJI expects a successful marketing campaign and rapid growth of market share in the cellular phone market for users who are concerned with the health questions. While an after-market retrofit of an existing wireless telephone with an IAA may not fit the Commission's interpretation of "internal means", a similarly inexpensive "design in" will. Additionally, an after-market add-on version of the IAA will prove less cumbersome than existing external approaches to compatibility (*e.g.*, neck loops or other inductive system sets for telecoils).

MJI agrees with the Commission's tentative conclusions that a revocation of the exemption is in the public interest and that not revoking or limiting the exemption will have an adverse effect on hearing-impaired individuals. It is MJI's belief that its proprietary IAA technology makes feasible compatibility between wireless telecommunications equipment and hearing aids.

We would appreciate the Commission's consideration of the foregoing as it finalizes its decision regarding the exemption which is the subject of the NPRM. Please feel free to contact me if we may provide any further information or assistance in this process.

Sincerely,

John A. Hamilton

JAH:jh2

cc: Qualex International, Portals II
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